

WHAT IS CLAIMED IS:

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1. An image pickup apparatus comprising:  
first and second image pickup portions for  
receiving at least a first wavelength component of  
5 object light and a second wavelength component of the  
object light different from said first wavelength  
component, respectively; and  
first and second optical systems for guiding said  
first and second wavelength components of the object  
10 light to be received by said first and second image  
pickup portions to said first and second image pickup  
portions, respectively, via different optical paths,  
said first and second optical systems being constructed  
such that focal length of said first optical system  
15 with regard to said first wavelength component is equal  
to the focal length of said second optical system with  
regard to said second wavelength component.
2. An image pickup apparatus according to claim 1,  
20 wherein said first wavelength component is a  
representative wavelength of light of a first spectral  
distribution and said second wavelength component is a  
representative wavelength of light of a second spectral  
distribution which is different from said first  
25 spectral distribution.
3. An image pickup apparatus according to claim

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2, wherein said first spectral distribution is a spectral distribution including peak wavelength of a luminosity factor.

5           4. An image pickup apparatus according to claim 1, wherein said first wavelength component is included in a spectral distribution including peak wavelength of a luminosity factor.

10           5. An image pickup apparatus according to claim 1, wherein said first and second wavelength components are two different color components among red, green, and blue.

15           6. An image pickup apparatus according to claim 1, wherein each of said first and second optical systems comprises a filter for extracting said first and second wavelength components.

20           7. An image pickup apparatus according to claim 1, wherein each of said first and second optical systems comprises a single lens.

25           8. An image pickup apparatus according to claim 7, wherein said single lenses of said first and second optical systems are integrally formed of a glass material or a resin material.

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9. An image pickup apparatus according to claim 8, further comprising:

a light shielding layer provided between said integrally formed single lenses.

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10. An image pickup apparatus according to claim 1, wherein each of said first and second optical systems comprises a single lens provided with an infrared radiation cutting filter.

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11. An image pickup apparatus according to claim 1, wherein each of said first and second optical systems comprises photochromic glass.

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12. An image pickup apparatus according to claim 1, wherein said first and second optical systems comprises filters for extracting said first wavelength component and said second wavelength component, respectively.

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13. An image pickup apparatus according to claim 1, wherein each of said first and second optical systems comprises a color purity correction filter.

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14. An image pickup apparatus according to claim 1, wherein each of said first and second optical systems comprises a filter whose transmission factor

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15. An image pickup apparatus according to claim 1, wherein, when a virtual object distance  $D$  [m] is defined as a function of an image pickup angle  $\theta$  [°] of said first or second optical systems to be  $D = 1.4 / \tan (\theta/2)$ , an interval between optical axes of said first and second optical systems is set such that change in an interval between an object image of said first wavelength component received by said first image pickup portion and an object image of said second wavelength component received by said second image pickup portion between when an object exists at said virtual distance and when the object exists at infinity is smaller than a pixel pitch of said image pickup portions multiplied by two.

16. An image pickup apparatus according to claim  
20 1, wherein said first and second image pickup portions  
are integrally formed.

17. An image pickup apparatus according to claim  
1, wherein said first and second image pickup portions  
25 are formed in a plane shape.

18. An image pickup apparatus according to claim

1, further comprising:

a plurality of openings for taking in external light through said first and second optical systems.

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